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FRANKLIN INSTITUTE  
of BOSTON

Franklin Academy

UMASS/AMHERST

under the Will of Benjamin Franklin



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President

GOVERNMENT DOCUMENTS

12 1994

University of Massachusetts  
Depository Copy

Dr. Piedad Robertson  
Secretary of Education  
Executive Office of Education  
One Ashburton Place, Room 1401

Dear Dr. Robertson:

The Franklin Institute of Boston respectfully submits its application and accompanying documentation for a charter school.

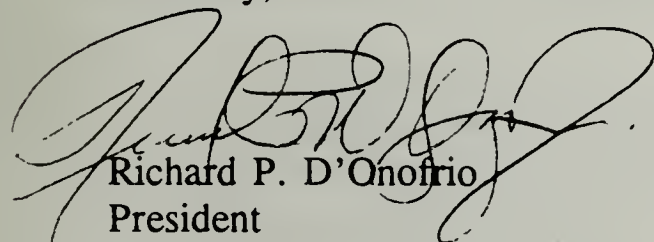
We view this as a singular opportunity to continue Franklin's long term commitment of providing a solid educational foundation to the youth of Boston in the areas of science, mathematics, technology, and engineering. The youth of the city are deserving of an exceptional educational experience that can be attained at Franklin.

The documentation and application being submitted assumes a projected starting date of 1994 if that is possible.

We will be readily available to answer any questions that you may have on our application and to further refine the proposal if needed.

We look forward to your favorable reply.

Sincerely,

  
Richard P. D'Onofrio  
President

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## **Attachments**

**Charter Application: Part I**  
**The Franklin Academy**  
**of the**  
**Franklin Institute of Boston**

**1. Mission Statement:**

The purpose of the proposed charter school is to provide young men and women in the City of Boston, who are typically not considered to be college bound students, with the opportunity to develop a firm foundation in mathematics, science, technology and verbal and written communications skills. The core philosophy for this mission statement is an extension of the proposal which was made by Benjamin Franklin for his "Academy" in 1749. In that proposal he stated:

The good Education of Youth has been esteemed by wise Men in all Ages, as the surest Foundation of Happiness both of private Families and of Commonwealths.

After six years of experience in meeting the needs of "at risk" students in twelve of the high schools of Boston, it is clear that there are many students in this category who have the potential to succeed and flourish in a structured college environment with the proper support and incentives.

In meeting its purpose it is hoped that the students of the Academy will be additionally provided with an educational vision which extends from entry into high school, through graduation from college and on to employment and social responsibility.

This is consistent with the philosophy and mission of the college and the development of a formal high school component to this mission and philosophy is a logical extension in its educational service to the Boston community as a trust of the City of Boston.

**2. School Objectives:**

A. The objectives of the Franklin Academy are:

1. To promote college as an option for high school students.
2. To make the students aware of the advantages of post-secondary education and the need for life-long learning.
3. To promote the fields of engineering and science in general, and the field of engineering technology in particular, as viable career options in today's society.
4. To develop within each student a sense of self-worth and value through academic achievement.



- B. Through these objectives it is hoped that each student will become economically self sufficient, confident in their ability to grow and develop as individuals, and become productive and socially responsible members of the Boston community.
- C. The focus of the Franklin Academy has been on the selection of students from the wider community who represent the future work force of the area. Typically, the profile of the Academy students have been as follows:

60%	African-American
22.5%	Hispanic
12.5%	White
5%	Asian

In addition, the male/female breakdown has typically been in the 40%/60% region respectively with the currently enrolled students approaching a near 50%/50% breakdown.

In terms of the community itself, the Franklin Institute of Boston has been an established member of the Boston education community for over eighty five years. The students currently in the Franklin Academy are drawn from twelve different public and private high schools in Boston. In support of these activities it is expected that the individuals and organizations that have supported the current activities of the Franklin Academy will continue to provide ongoing support and advice for this program in a charter school format. Rather than an environment which reflects a single community or interest group, the Franklin Academy would be representative of the ethnic diversity of the City of Boston and the many cultures that exist in the city.

### 3. Statement of Need:

- A. The need for this type of school stems from a number of sources, not the least of which are the students and the parents of those students who are already enrolled in the Franklin Academy or who have completed the Academy program and gone on to college.

The mission of the Academy program has been to identify young men and women whose academic performance through the eight grade has been marginally acceptable but whose potential for greater achievement has not been reflected in the performance to date. While there are a number of programs and institutions responding to the needs of the academically gifted students in the Boston Schools and colleges, few, if any, are focussing on the larger number of students who are considered average or slightly below average.

When it began, over five years ago with a multiyear grant from the Balfour Foundation, the Academy program partnered with Boston High School. Boston High is an alternative high school and it was selected to initiate the program to test the thesis that "at-risk" students have the potential to succeed in a rigorous and demanding science and mathematics program if there existed certain key supporting factors including:

1. Parental/Guardian advocacy and support for education/higher education.
2. Strong counseling on critical life style and academic issues.
3. An environment in which higher education is a valued enterprise.
4. Role models/peers who are involved in or actively pursuing higher education opportunities.
5. Supportive and caring faculty who are experts in their respective disciplines.

Now in its sixth year of operation, the Franklin Academy has served over 111 students and seen its first group of students through graduation from high school. Of the original twenty-six students that began the program, thirteen have completed high school and gone on to college (see Report On The Effectiveness of the Academy Program in Applied Technology attached to this application).

B. A charter school would enable the Franklin Institute of Boston to:

- Expand the educational opportunity now only available to a limited number of Boston students.
- It would significantly enhance the prospects of these "at risk" students to complete a high school program.
- It would provide completers with an excellent college preparatory curriculum.
- It would have a major impact on the individual's self esteem and personal worth.

The Franklin Academy's concept for a charter school in science, mathematics and technology is for it to be the "opportunity school" for that segment of the Boston high school population that is typically the largest, yet the most likely to be underserved in these critical areas of education.

That science, mathematics, technology and communications are the essential underpinnings of education in today's world, cannot be disputed. That Boston needs to do more, in educational terms, in these areas is self evident. That the Franklin Academy charter school, located at the Franklin Institute of Boston, is mission complementary in terms of students to be served and curriculum focus, is clear.

#### 4. School Demographics:

- A. The facility in which the Franklin Academy would operate is the Franklin Institute of Boston. The Institute is located on the triangular shaped piece of property bounded by Tremont, Berkeley and Appleton Streets. It is in the South End of Boston and is easily accessible to bus, subway and streetcar lines. The Institute currently operates as an institution of higher education granting degrees at the Associate level and awarding Certificates of Proficiency. It is authorized by Chapter 569 of the Acts of 1908, as amended, to grant through the Master's degree in both science and engineering with the approval of the Higher Education Coordinating Council. It is a trust of the City of Boston and is operated as an independent institution under public supervision and control.

It is managed by The Franklin Foundation which, by statute, is the exclusive agent of the trustee, City of Boston. Its members consist of the Mayor of Boston (ex-officio), the ministers of the three oldest Congregational, Presbyterians, and Episcopal churches in Boston (ex-officio), and eight other citizens appointed by the Supreme Judicial Court of Massachusetts.

- B. The location of Franklin Academy at the Franklin Institute of Boston was selected because:
1. It is easily accessible to all neighborhoods in Boston.
  2. It is a facility that is already involved in educational activities.
  3. It's educational focus is in mathematics, science and technology.
  4. It already serves an ethnically and culturally diverse student body (53% minority enrollment, 25% who do not speak English as a first language).
- C. The characteristics of the student population to be served would typically reflect the make-up of the students currently enrolled in the Franklin Academy program. That makeup is:
1. Approximately 50% male/female
  2. Academic performance in the average category [ $C \pm$  student].
  3. 85%  $\pm$  minority
- D. When fully operational, the total enrollment in the Franklin Academy is expected to be approximately 150  $\pm$  students.
- E. The grade levels to be served will be grade 9 through grade 12 with approximately 35 students in each grade level.



## **5. Recruiting and Marketing Plan:**

- A. The operation of the Franklin Academy over the last six years has already developed more applicants than the program can accommodate. In addition, the program's outreach efforts have developed links with numerous community based organizations. The difficulty we anticipate will not be in developing a sufficient pool of students, it will be in not being able to accommodate the number of requests for the positions available.
- B. As indicated previously, the staff of the Franklin Academy has developed an extensive outreach effort that currently operates in the communities of twelve of Boston's high schools. In addition we currently receive many referrals from community based organizations and the parents of students who are currently enrolled in the Franklin Academy.

## **6. Admissions Policy:**

- A. Admission to the current Franklin Academy program is based on 4 criteria. These are:
  - 1. The student must be a resident of the City of Boston.
  - 2. He/she must demonstrate an interest in pursuing studies in the areas of mathematics, science, technology and communications in an interview.
  - 3. He/she must be able to demonstrate that he/she has the potential to succeed in such a program.
  - 4. The parent/guardian/family member must demonstrate interest and support of the student in an interview.
- B. These criteria do not impinge on any non-discrimination laws of the Commonwealth of Massachusetts or the United States. Further, these criteria are consistent with the mission and purposes for which the Franklin Institute of Boston was founded in 1908.

## **7. Profile of Founding Coalition:**

- A. As indicated previously, the Franklin Institute of Boston is a trust of the City of Boston. It is administered as an independent institution of higher education by the Franklin Foundation, the exclusive agent of the trustee, The City of Boston. The Foundation is a legal corporation which was established by the legislature through Chapter 569 of the Acts of 1908 to administer the Franklin Institute of Boston and the Benjamin Franklin 200 year Trust on behalf of the trustee, The City of Boston. It is under public supervision and control and consists of four ex-officio appointees (including the Major of Boston) and eight others "found in Boston" who are appointed by the Supreme Judicial Court of Massachusetts.

This organization, through the Franklin Institute of Boston and its network of contacts with various high schools, and community and business groups, already supports the Franklin Academy program. It is this group which supports the activities of the Franklin Academy, that would continue to support, as well as expand, its activities and ultimate conversion to a charter school.

- B. As indicated elsewhere in this document and in the attachment to this application, the existing Franklin Academy program operates with the support of twelve of Boston's high schools. Having done so for the last six years, the program has developed significant support from all levels within these schools. It has the support of the headmasters, the guidance staff and the instructional staff in many of these schools.

In addition, the program has received support from a number of organizations with strong ties to the community, including the Asian American Civic Association, the State Street Foundation, the Balfour Foundation and others.

- C. Additional outreach to the business community is currently underway. It is felt that ongoing support for further equipment development, especially computer equipment, will be a required activity in a charter school environment. The modern laboratory requires the extensive use of computers to simulate a number of functions. Additional equipment will be required in an expanded operation and this will require the direct support of local business and industries.

## **8. Time Table:**

- A. Most of the planning for a charter school to be located at the Franklin Institute of Boston has already been accomplished and is in place. The population to be served has been identified and partially recruited. The faculty required to provide instruction in the areas of mathematics, science, technology, communications, and the humanities and social studies have been identified from among the current staff. Additional support staff may be required shortly before the actual opening date. The facilities to be used are located in the Franklin Institute. There already exists a network of, parents, individuals and groups who support the current educational program of the Franklin Academy. This support group will be expanded and formalized.

The principal activities that remain to complete the process include:

1. The development of a formal advisory committee/support group to include the various constituencies involved (e.g. parents/guardians, civic associations, business community, high schools, etc.)
2. A review of the proposed curriculum by the Board of Education to assure that the



students will meet the performance standards and testing requirements established by the Board.

- B. In the event of a legislative change in the starting date to the 1994 school year, the Franklin Academy is prepared to make the transition to a charter school. This change would be feasible and possible since the only structural elements remaining to accomplish this are those items identified in A. above.

**Charter Application: Part II**  
**The Franklin Academy**  
**of the**  
**Franklin Institute of Boston**

**9. Evidence of Support:**

- A. Because of Franklin Institute's strong commitment to community service, solid and supportive relationships have developed with surrounding schools, local social service organizations, high school teachers, guidance counselors and headmasters, parents and other extended family members.

With the Franklin Academy's concentration on mathematics and the sciences for high school students, students from economically disadvantaged and minority families (who otherwise would never consider this supplemental education) are given the opportunity to prepare themselves for a college education which could possibly lead to lifelong careers in technology, mathematics, engineering or the sciences. Students in the Academy Program presently come from twelve (12) of Boston public and parochial schools. These high schools include: Boston High, Boston College High, Cathedral, Charlestown, Dorchester, East Boston, Hyde Park, John D. O'Bryant, Madison Park, Snowden, South Boston, West Roxbury.

Franklin's commitment to providing access to engineering, mathematics, technology and science education is also evident in its Engineering Careers Exploratory Program. Since 1989, Franklin has run a twelve session "hands-on" interactive program in conjunction with students in Chelsea High School's Tech Prep Program. Franklin has also conducted this program with Copley High (now Snowden International High) and Boston High. Franklin also provides "pro-bono" facilities usage for a chemistry class from Snowden High School.

An example of Franklin's community involvement and support includes the Institute's collaboration with the Asian American Civic Association in the development and implementation of a Drafting Engineering Aide Program. This program was funded by the Department of Education in response to the Building Opportunities Project of the Central Artery/Third Harbor Tunnel Project.

All of the above involvement by Franklin would not be possible without the support of our local high schools or community based social service organizations.

- B. Letters of support from Franklin Academy students have been included. Because of the receipt of the formal application on February 8, 1994, other letters of support will be mailed directly by Franklin supporters to the Executive Office.

**10. Educational Program:**

- A. As reported in the Concept Paper, the educational program for secondary school students (grades 9 through 12) will incorporate a curriculum which will focus on science, mathematics, technology, and communications while additionally incorporating those other core subject areas necessary to meet state requirements. The mathematics core would incorporate Algebra I, Algebra II, Trigonometry, Geometry, and Calculus. The science core would incorporate the elements contained in the principle of technology curriculum (physics) and would include options in Chemistry and Biotechnology. Computer literacy in such areas as word processing and spreadsheets would round out the science core and would be incorporated into the application of communications, and mathematics.

The communications core, which will include the development of essential skills in verbal and written communications, would be emphasized throughout the curriculum and fully integrated into the curriculum in the same manner as is currently being done in the college's "Writing Across the Curriculum" program (e.g. laboratory reports required in science and technology courses.) Special consideration will be given to students where English-as-a-Second Language is needed.

The following chart shows in detail the proposed educational program the Franklin Academy:



# PROPOSED CURRICULUM FOR THE FRANKLIN ACADEMY

MAJOR SUBJECT AREA	9th Grade	10th Grade	11th Grade	12th Grade
Writing/Verbal Skills	Writing/Verbal Skills	Writing/Verbal Skills	Writing/Verbal Skills	Writing/Verbal Skills
Mathematics	Algebra I	Geometry	Algebra II	Trigonometry/Calculus
Science	General Science	Physics I  Chemistry I	Physics II  Chemistry II	Physics III  Chemistry III
Physical Education	Physical Education	Physical Education	Physical Education	Physical Education
Foreign Language	Foreign Language	Foreign Language	Foreign Language	Foreign Language
Extracurricular	Computer Applications  Music, Art or Drama	Computer Applications  Music, Art or Drama	Computer Apps./Programming  Music, Art or Drama	Computer Programming/Computer Aided Drafting  Music, Art or Drama
Humanities	U.S. History	History of Civilization & Civics	Geography	Elective (Ethnic Studies, etc.)

The Franklin Academy program currently provides the majority of science, mathematics, and written and verbal skills courses to its students. To accommodate those Charter School students who may find the biotechnology cluster more consistent with their developing educational aspirations, links have already been established with the Boston University School of Medicine.

- C. The school calendar will follow the exact calendar of the Boston public school beginning in September and continuing for a minimum of 180 days. School days will run from 8:00 a.m. through 3:00 p.m. for regular academic classes. Students will be allowed to remain for an additional two hours of private or group tutoring or research assistance. We are also considering a summer program of academic enrichment. The current Franklin Academy Program runs a five week summer program of twenty five (25) hours of academic coursework.

## **11. Student Performance:**

- A. In order to maintain a high level of competency in each subject area and to promote academic excellence, teachers will employ both formal and informal techniques including: quizzes, tests and examinations. Teacher and student question and answer periods will also be implemented. Students will be encouraged to demonstrate the knowledge that they have acquired by applications through demonstrations, etc. Some of the examples of these demonstrations will include science and research projects, term papers and essays. In some cases, students will be asked to present, in layman's terminology, the knowledge they have gained in classroom discussions. Students will be encouraged to think critically and to problem solve which will include analyzing various situations, and synthesizing and evaluating subject matter. The ability of students to integrate knowledge and ideas among various academic disciplines and to apply knowledge already learned to new situations will be emphasized.
- B. Classroom evaluations of student performance and grasp of subject matter will occur continuously. Academic support including tutoring will be provided as needed to students during and after class hours.

## **12. School Evaluation:**

- A. The most important gauge of the Academy's success will be the academic success of students. The academy curriculum will be monitored constantly to ensure that the faculty employs effective teaching methods and is aware of new developments.

The following quantifiable areas will be used as primary evaluative tools for the Franklin Academy:

- 1. Percentage of student persistence and retention in the Franklin Academy and within their appropriate grade levels.
  - 2. Acquisition of academic skills essential to high school graduation.
  - 3. Total percentage of students completing the high school program.
  - 4. Total percentage of graduates continuing on to college and that proportion of the graduates who pursue programs of study in mathematics, technology, engineering, or the sciences.
- B. To inform parents of their child's progress, and to support their child's efforts in the attainment of an education, contact will be maintained constantly with parents and/or



guardians of Franklin Academy students. Likewise, parents will be encouraged to call or visit the Franklin Academy staff whenever problems arise that will prevent their child's success in school. This practice has been established in our present Academy program and will continue for the Franklin Academy High School.

Numerous studies have shown that parental involvement is a crucial factor in a student's academic success. To enhance parental involvement, parent and community councils will be organized through the efforts of the counseling staff of the Academy. Formal meetings will occur monthly. These meetings will involve the attendance of parents, interested community people, faculty and staff. Parents will be provided with information on what their child is learning and will be encouraged to develop educational and other skills that will allow them to monitor their child's homework assignments and school attendance. It is hoped that through these meetings the interest of the attainment of an education will flow throughout the neighborhoods with education being shown as one of the principal mechanisms to elevate a person to a higher economic status.

### **13. Human Resource Information:**

- A. Teaching and administrative staff will be drawn principally from regular college faculty and administration of the Franklin Institute. Each potential candidate will be interviewed and selected based on experience, educational preparation, past successful performance in their fields of expertise and their commitment to educating students (male and female) of all ethnic, racial and socioeconomic backgrounds.

Faculty will be hired based on their being experts in their respective disciplines and/or ability to meet any future certification requirements subsequently imposed. As with the current Academy Program, the minimum academic credential will be a Master's degree in their subject area and appropriateness to teach high school students. Final candidates chosen as teachers for the Academy will be selected based on the above criteria.

- B. Teachers and administrators will be evaluated based on established performance guidelines of Franklin Institute. Evaluations will occur twice yearly, once per semester.
- C. Staff of the Franklin Academy will be encouraged and required to maintain their expertise and knowledge of current developments in their respective fields. All staff and teachers of the Franklin Academy will meet bi-monthly to share ideas on teaching methods that are appropriate and effective (e.g., cooperative learning, etc.).



**14. School Governance:**

- A. Management of the Franklin Academy will be a part of the internal management responsibilities of the Franklin Institute. Currently, the Director of Community and Continuing Education, whose principal responsibility is to direct all of the present high school programs of Franklin, will continue as director of the Franklin Academy as a Charter school.
- B. The board of trustees of the Franklin Institute, The Franklin Foundation, will continue to oversee the Franklin Academy. As previously indicated, the powers of appointment to this body rests with the Supreme Judicial Court of Massachusetts and is codified in law (see items 4.A and 7.A above).
- C. The roles and responsibilities of the board of trustees of the Franklin Academy will be the following:
  - 1. To provide policy, support, and overall direction to the Academy. These roles and responsibilities will serve as a reflection of the commitment of the mission of the Institute. This role will not include micromanagement of daily Academy operations.
  - 2. Fundraising and other supporting activities as normally ascribed to fiduciaries. will be another major duty of the board.
- D. Interaction of the board, teachers, administrators, students, and families will occur in meetings that are established by the board. All constituents will be encouraged to share their ideas and opinions on the Franklin Academy.
- E. While parents and students will be encouraged to share their ideas on Academy rules, policies, etc., the ultimate decision-making will lie with the board. The board will give appropriate and timely consideration to relevant concerns and issues of the parents and students.
- F. In order to maintain and increase community involvement and support of its activities and educational goals, the Franklin Academy will seek to expand formal lines of communication with the various organizations and schools of the community. Information will be sought on community needs and concerns. Franklin Academy students, under close supervision of the faculty and staff, will reach out to the community by serving as after school tutors and mentors to elementary and junior high school students. As previously mentioned (see 9A.), the Franklin Academy will, where feasible, continue to share with other community organizations and schools its resources and facilities. It is hoped, that Franklin Academy students will benefit by acquiring internships in areas related to their future educational and career pursuits.

**15. Building Options:**

- A. The Franklin Academy will be located in the present facilities of the Franklin Institute.
- B. The Franklin Institute is licensed by the Department of Education and has an occupancy permit for use of its facilities as a school.
- C. There are no future plans for the acquisition of a school building.
- D. Funding needs of the Franklin Academy will be addressed as a part of Franklin Institute's development issues.

**Charter Application: Part III**  
**The Franklin Academy**  
**of the**  
**Franklin Institute of Boston**

**16. Code of Conduct:**

A. Franklin has developed a set of regulations which, while not designed to limit students' freedom, will ensure the safety, well-being, and rights of all students. In addition to abiding by school regulations, students are also required to conduct themselves in a manner which reflects favorably on the student body and on the institution. The Charter School regulations will be modeled on those established for the college, (see attached copy of Franklin's "1993-1994 Guide to Student Life"), which are also applicable to Franklin's current programs serving Boston high school students. The regulations will include, but not be limited to:

1. The school does not permit the possession, use, or sale of weapons.
2. The school does not permit the possession, use, or sale of illegal drugs or narcotics.
3. The school does not permit the possession, use, or sale of alcoholic beverages or any controlled substance anywhere on campus or at any school-sponsored function.
4. The school does not permit smoking on campus.
5. The school does not permit gambling on campus.
6. The school does not permit disruptive, abusive, or destructive behavior.
7. The school does not permit eating or drinking to take place outside of the school-designated area, and food and beverages are not permitted in classrooms, laboratories, or corridors.
8. The school does not permit acts of verbal harassment or the verbal abuse of fellow-students, faculty, staff, guests of the school or visitors.

Failure to comply with these regulations will lead to immediate investigation, and disciplinary action. A breach of student regulations which places students' well-being in jeopardy, may lead to separation from the school either through suspension or expulsion.



B. Students may be disciplined by an instructor for a breach of school regulations. If the student believes the action to be inaccurate or inappropriate, the following due-process procedure is in place:

1. The decision can be appealed to the Charter School administrator
2. If the appeal is unsatisfactorily resolved, and the Charter School Administrator upholds the disciplinary action of the instructor or recommends additional disciplinary action, the student may request a hearing before an Institutional Administrative Committee.

Reports of alleged violations of the school's regulations which are not resolved by an instructor are sent directly to the Charter School Administrator who will deal with the matter, calling in members of the faculty, administration, staff, and student body, as appropriate.

Students committing violations of the school's regulations that place any member of the student body, faculty, staff, guest of the school or member of the general public in danger will be immediately suspended. In the case a student is found in unlawful possession of, using or distributing illicit drugs or alcohol, the student maybe expelled from the school. The above behaviors as well as being serious infractions of the school regulations, are in violation of city, state and federal law.

## **17. Special Needs Students:**

To the extent that special-needs students are applicants to Franklin, they will be accommodated in so far as their special needs will allow.

## **18. Funding:**

A. As the Franklin Institute has been successfully operating programs for Boston high school students since 1987, the only major cost that would be incurred during the planning stage of the Charter School implementation would for curriculum development. Franklin currently has in place high-school level curricula in mathematics, science, oral and written communications, and computer literacy. The cost of developing additional curricula in social studies, and other areas would be approximately \$7,500. This cost may be assumed by the foundations supporting Franklin's current high school program.

B/C. Please see the five year budget of projected income and planned expenditure on page 18.

**19. Accountability:**

- A. The process of compiling and disseminating the annual report, as set forth in M.G.L.c.7, s.89, would be undertaken by the Franklin Foundation.
- B. The Bursar's Office has a structure and process in place for the regular review of school finances and accounts. Under this system, the high school programs currently operated at Franklin are handled as a separate entity from the college, since these programs are funded by sources other than tuition.
- C. Franklin's Registrar's office already has in place a computerized system for maintaining school records and disseminating information. The Admissions office, likewise, has a computerized information system for disseminating information to students and prospective students.

**20. Transportation:**

- A. As Franklin intends to recruit students for the Charter School from the City, it will require these students, like the students currently enrolled in the Franklin Academy, to use public transportation to get to and from school. The school is located within easy access of the commuter rail service, the MBTA Green and Red lines and a number of MBTA bus lines.
- B. Refer to item 20 A.

**21. Liability and Insurance:**

Franklin carries the full insurance package required for a school, including, fire, theft, and liability. It also carries workmen's compensation and health insurance coverage for faculty and staff.

**22. Government Documents:**

Franklin is able to submit, on request, copies of all the required documents.

CHARTER SCHOOL FIVE YEAR BUDGET OF INCOME AND EXPENDITURE

	Year 1	Year 2	Year 3	Year 4	Year 5	Totals
<b>I. Income</b>						
Public funding	\$137,500	\$275,000	\$412,500	\$550,000	\$550,000	\$1,925,000
Foundation and other grants	\$90,000	\$55,000	\$60,000	\$65,000	\$70,000	\$340,000
	\$227,500	\$330,000	\$472,500	\$615,000	\$620,000	\$2,265,000
<b>II. Expenditure</b>						
Instructional salaries	\$34,200	\$68,674	\$157,250	\$157,879	\$158,511	\$576,514
Fringe benefits	\$3,420	\$6,867	\$31,450	\$31,576	\$31,702	\$105,015
Non-instructional salaries	\$55,000	\$55,220	\$67,720	\$80,491	\$80,813	\$339,244
Fringe benefits	\$11,000	\$11,044	\$11,088	\$16,098	\$16,163	\$65,393
Expendable supplies	\$17,500	\$35,000	\$52,500	\$70,000	\$70,000	\$245,000
Administrative Services (Record keeping, etc.)	\$2,000	\$4,000	\$6,000	\$8,000	\$8,000	\$28,000
	\$123,120	\$180,805	\$326,008	\$364,044	\$365,189	\$1,359,166



**ATTACHMENTS:**

**Letters Of Support**

**Concept Plan**

**A Report on the Effectiveness  
of The Academy Program in Applied Technology**

# BOSTON PUBLIC SCHOOLS

TECHNICAL AND VOCATIONAL EDUCATION  
• CHARTER • ED.D  
Executive Director

February 15, 1994

Ms. Virginia Griman  
General Counsel  
Executive Office of Education  
1 Ashburton Place  
Room 1401  
Boston, MA 02108

Dear Ms. Griman:

I am writing in support of Franklin Institute of Boston's petition to be designated a charter school. For the past seven (7) years Franklin Institute of Boston, an 85 year old college of engineering and industrial technology, has successfully operated a supplementary high school program for Boston Public School Students.

This program, the Franklin Academy, has prepared more than 300 students for college careers in science and technology. Without this resource, it is unlikely that these students would have been able to be motivated and properly prepared for collegiate study.

The granting of a charter school status to this institution is well deserved and would serve as a model for public schools who are seeking new ways of reaching our students and parents. As a publicly controlled college, the Franklin Institute can serve as a leader in this endeavor.

I wholeheartedly endorse this institution's request to become a charter school.

Sincerely,

  
Richard K. Fields, Ed.D  
Executive Director

ae

cc: Richard P. D'Onofrio, President, Franklin Institute of Boston

# CHELSEA HIGH SCHOOL

8 CLARK AVENUE CHELSEA, MA 02150



Loreen R. Bradley  
Interim Principal

James F. O'Donnell  
Interim Assistant Principal

Eric Williams  
Interim Assistant Principal

February 14, 1994

Ms. Piedad Robertson  
Secretary of Education  
Executive Office of Education  
One Ashburton Place, Room 1401  
Boston, MA 02108

Dear Ms. Robertson:

I wholeheartedly endorse Franklin Institute's efforts at becoming a "charter school" within the State of Massachusetts.

As an educator in a similar urban setting, I can attest to Franklin's innovative and effective delivery of math, science, and engineering educational services to high school youth.

Chelsea High School has been an active member of the Franklin Academy Program. Franklin has hosted an engineering exploratory program for us for five years. Students presently enrolled in Tech Prep programs participate in intensive occupational education/vocational education programming designed to heighten interest in engineering careers especially among minority youth.

Again, I endorse Franklin Institute's efforts for a charter school. This institution is strategically located, educationally sound, and poised to offer an outstanding math and science based curriculum.

Sincerely,

A handwritten signature in cursive script, reading "Michael J. Caulfield".

Michael J. Caulfield  
Math Teacher  
Chelsea High School



February 14, 1994

Ms. Piedad F. Robertson  
Secretary of Education  
The Executive Board of Education  
One Ashburton Place, Room 1401  
Boston, MA 02108


Dear Ms. Robertson:

I have been in the Franklin Academy Program for 3 years now and I am still currently attending the program. This program has helped me get a start on college and get ahead at school because some of the materials that we learn here are used in school. I used to worry about Algebra in the 9th Grade and the program gave me the same Algebra but it was more challenging. I stopped being worried about Algebra at school and actually got better and grew more confident about my math skills. Now we are learning Pre-calculus at the Academy and we are only in the 11th Grade!

The program gives me something to do afterschool and in the summer when I am most likely to waste my time playing. We may get books that look old and equipment that we think was left over from the time the building was erected but the instructors know how to make the best of the materials. I get to meet many students in my grade level from many different schools around Boston and I also get paid to attend while I learn at the Academy Program.

This is a great program and I would like to see another group of students attending the program. We had a group that has graduated before us and another group that is full of sophomores that will graduate a year after we graduate. There is currently no group after the sophomore's group and it would be a shame to see the program end after three groups have graduated.

Very truly yours,

  
Chi Thang

February 14, 1994

Ms. Piedad F. Robertson  
Secretary of Education  
The Excecution Board of Education  
One Ashburton Place Room 1401  
Boston, Ma. 02108

Dear Ms. Robertson:

This is my third year in the Franklin Academy, and also my last. This program has been my inspiration for me to succeed in school. As the years have passed, I have a broader view of what I want to become in life, compare to earlier years. In this program I have learned things that I would not have learned in day school. In school I would have to wait 2 years for a particular subject that I have already taken in the Academy Program.

I have many thanks for the Academy Program because it made me realize that for me to be the best I must perform at my best. In the Program we go by the rules that are even stricter then the rules at my day school. In the Program I became better at any work as long as you put your mind to it. To credit this Program I have to say that the work that they give us is like the preparation of a college course. By that I mean the time management, and the time of effort that the teacher has put in make me want to learn. Teachers in this program understand everyone effort that they could on. Teachers in the program also teach us the way a that is suitable to understand, and if not understandable they would would put the effort for you to understand after or before they move on to another subject.

This Program has given me encouragement to further for what I have dreamt. This is my last year, and I am going to miss it very much.

Sincerely Yours,

A handwritten signature in dark ink, appearing to read 'Pierre Elie', with a stylized flourish at the end.

Pierre Elie

February 14, 1994  
Ms. Piedad F. Robertson  
Secretary of Education  
The Executive Board of Education  
One Ashburton Place, Room 1401  
Boston, MA. 02108

Dear Ms. Robertson,

I was introduced into the Franklin Academy Program by one of the counselors at Boston High School. The day of the interview , I was very nervous. I bit my nails so hard that they started to bleed. I wanted to impress them as well as astonish them with my kindness and intelligence. When I was admitted , I was overwhelmed with "*Joy*".

The Franklin Academic Program has helped me so much in school that I went from a "B-" student to a strait "A" student. Because of the Algebra courses , I became more aware of different problems, and became advanced in my regular high school course in Algebra. The Franklin Academic Program means so much to me, that I would rather come here all day "For Free" and learn a whole lot more for I can better myself in my learning skills as well as feed my obsession of learning.

Because of the fact that I want to become an Architect, this program will benefit by showing me the road to success. It also teaches me that to get to that road of success, I must learn the right learning skills and listening skills to be all the me that I can be.

Sincerely,

Naomi Hollins  
Naomi Hollins



February 11, 1994  
Ms. Piedad Robertson  
Secretary of Education  
The Executive Board of Education  
One Ashburton Place, Room 1401  
Boston MA. 02108

Dear Ms. Robertson:

The Franklin Academy has giving me a chance of a lifetime. The goals I have reached and the goals that I want to reach are well in my grasp because I found out my future lies in the road of education.

Franklin has pointed out and guided me through a path of education which has helped me in all my school work. The subjects such as Algebra which I thought was the hardest thing in the world seem like a breeze now thanks to my teachers at Franklin Institute. This experience would be with me for the rest of my life. I would always be grateful to the staff and wonderful teachers here at Franklin.

Sincerely,

*Armando Martinez!*  
Armando Martinez!

February 14 , 1994

Ms. Piedad F. Robertson

Secretary of Education

The Executive Board of Education

One Ashburton Place , Room 1401

Boston , Mass 02108

Dear Ms. Robertson ,

Franklin Academy has helped me a lot in school . It has helped me to get ahead in my work at school . I can focus much better on the courses in school . Prior to my coming to the Academy I was lost . Because I have improved my grades are better . Thanks Franklin !

Yours Truly ,

A handwritten signature in cursive script that reads "Ricardo Brown".

Ricardo Brown

February 14, 1994

Ms Piedad F. Robertson  
Secretary of Education  
The Executive Board of education  
One Ashburton Place, Room 1401  
Boston, ma. 02108

Dear Ms. Robertson

Franklin has helped me with math, English and science. I'm taking a course which helps me organize my work for school and Franklin. Itaken this course from a man named John who takes the experince he has had and uses it as knowledge.

My mind is like a sponge absorbing information from Franklin and using in school as a tool. It helps me with my grades and Somtime my teacher are amazed because they don't expect me to know the lesson well. Also when going to Franklin it makes me feel like i'm in college. Franklin gives me the encouragement to pass.

Sincerely,

  
Bounmy Fouy



February 14, 1994

Ms. Piedad F. Robertson  
Secretary of Education  
The Executive Board of Education  
One Ashburton Place, Room 401  
Boston, Ma. 02108

Dear Ms. Robertson:

Franklin Institute has helped me through a lot of struggles in my school work school. It has helped me in getting much better grades in school. Since I've gotten to Franklin I have learn so much in little time. It has helped me so much in my school work that my last report card grades were all A's and B's. I'm really glad that Franklin was around when I needed it or I would still be lost in my school work right know. I hope that other kids get the privilege to come to this program and I hope that Franklin Institute stays open in helping other people, like me succeed in life.

Sincerely,  
Luis Amoye

February 14, 1994

Ms. Piedad F. Robertson  
Secretary of Education  
The Executive Board of Education  
One Ashburton Place, Room 1401  
Boston, Ma. 02108

Dear Ms. Robertson:

The Franklin Academy Program has done a lot for me over the past few years. Trigonometry, Pre-Calculus, Physics, Computers, and Communications courses have greatly improved my high school grades. This program is preparing me for college and the real world.

Before this program, I was having a hard time keeping up with my subjects. My teachers didn't have the time or the patience to help every student individually. As much as they did want to help they could not.

When I joined this program, I was very skeptical. I felt that if I was having trouble with high school classes, I wouldn't stand a chance taking college courses. Soon, I was proven wrong. The instructors at Franklin Institute take the time to make sure all of their students are up to speed. We even have opportunities to have one on one sessions with our instructors. The Franklin Academy Program is the ideal learning environment.

Not only does this program help students academically, but also socially. It helps to keep kids off the streets and it also gives us the opportunity to make positive friends. The program helps up to make constructive use of our time and energy. The Franklin Academy Program is an all around great program.

Very truly yours,

*Joey Gomes*  
Joey Gomes

February 14 , 1994

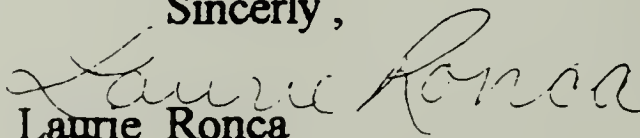
Ms. Piedad F. Robertson  
Secretary of Education  
The Executive Board of Education  
One Ashburton Place Room 401  
Boston , Mass 02108

Dear Ms. Robertson ,

I have been in the Franklin Academy program for about a year now . I have grown socially and academically during this time . I feel that the kids and staff at the Academy are my family away from home because there are a lot of people who care and are willing to take the time and effort to help .

I like the Academy program because it is challenging for kids our age to go to school and then going to school three hours extra . Few programs , if any , could give me the knowledge and friendships formed from the Academy . Going to the Academy has given me hope for a brighter future .

Sincerly ,

  
Laurie Ronca



CONCEPT PLAN  
FOR THE  
FRANKLIN ACADEMY CHARTER SCHOOL

**BACKGROUND**

The Franklin Institute of Boston, as an institution of higher education under public supervision and control, is in its fifth year of providing courses in an after-school program to Boston students in grades 9 through 12 in the areas of science, technology, mathematics and communications. Operating under the aegis of the Franklin Academy, the after-school program has served over 111 students since its beginning and currently serves 34 students from 12 of Boston's high schools. In addition, the Franklin Academy has provided courses in mathematics and science to over 350 students from Boston and Chelsea high schools as part of their regular curriculum. The faculty for the Academy are Professors who are drawn from the regular day school college faculty whose backgrounds, expertise and sensitivity are appropriate to this special population.

Students typically enter the program as freshmen in high school and are selected based on the recommendation from the high school guidance counselor, demonstrated support for educational advancement by a parent or guardian, and a personal interview. Preference is given those whose achievement potential is high but whose educational performance does not necessarily reflect that potential.

Working with an initial pool of 28 students who met these criteria in 1990 at the ninth grade level, The Franklin Academy saw 17 students through to the completion of high school in June of 1993. Of the 17 completers, 13 have gone on to various colleges and 3 of the 13 completers will receive an Associate in Engineering degree from the Franklin Institute of Boston one year after receiving their high school diploma. Early completion of the rigorous degree programs in Engineering Technology was made possible by their completion of their senior year in high school and the first year of the Associate in Engineering program simultaneously because of their advanced standing in mathematics, science, technology and communications.

**THE CHARTER SCHOOL CONCEPT**

Legislation passed by the General Court as part of the Educational Reform package during its last session provides for the establishment of Charter Schools, schools formed to meet the needs of parents and students for specialized approaches to education. The successful high school model that has been developed by The Franklin Institute, in the form of the Franklin Academy, is consistent with the intent and purposes of the Charter School concept and would allow for the ongoing financial

support of this model in our attempt to meet the needs of those secondary school students we are now serving. The model that has been developed, through this mechanism, would then be able to continue to serve that segment of the Boston high school population that is not currently classified as college bound and has been characterized as at-risk of not completing high school, but have been identified to have the potential to be successful.

#### **INTEGRATION INTO EDUCATIONAL MASTER PLAN AND INSTITUTIONAL MISSION**

The statement in the will of Dr. Benjamin Franklin that "...I wish to be useful even after my Death, if possible, in forming and advancing other young [people] that may be serviceable to their country" has been the guiding principle and foundation upon which our institutional mission and purpose is based.

As a trust of the City of Boston, and consistent with that mission and purpose as an institution of higher education under public supervision and control, the establishment of the Franklin Academy as a Charter School would provide us the unique opportunity to establish a seamless transition to higher educational opportunities for these students. In many ways this is an expansion and enhancement of the concept of Tech-Prep that instead of beginning at the 11th grade and relying upon the cooperation of colleges for curriculum revision, begins at the 9th grade and literally guarantees a smooth and direct transition into a college.

In addition, the Institute's Educational Master Plan, which envisions the development of baccalaureate degree programs in Automotive Technology, Industrial Engineering Technology and Engineering Management Technology in the distinctive "2+2" format (i.e. the Associate degree followed by two years of additional study for a bachelor's degree) would also provide an educational opportunity and vision for Boston students which spans the educational spectrum from high school, through community college, and on to senior college in a single environment.

#### **CURRICULUM**

As provided in the legislation, the curriculum would focus on science, mathematics, technology and communications while additionally incorporating those other core subject areas necessary to meet state requirements. The mathematics core would incorporate Algebra I, Algebra II, Trigonometry, Geometry, and Introduction to Calculus using the applied mathematics concepts developed in the current Academy curriculum. The science core would incorporate the elements contained in the Principle of Technology curriculum (Physics) and include options in Chemistry and Biotechnology. Computer literacy in such areas as word processing and spread sheeting would round out the science core.



## CHARTER SCHOOL CONCEPT PLAN

The development of essential skills in verbal and written communications would be emphasized throughout the curriculum and fully integrated into the curriculum in the same manner as is currently being done in the college's "Writing Across the Curriculum" program (e.g. laboratory reports required in science and technology courses).

The Franklin Academy program currently provides the majority of these courses to its students. To accommodate those Charter School students who may find the Biotechnology cluster more consistent with their developing educational aspirations, links have already been established with the Boston University School of Medicine's Undergraduate Program in Biotechnology in which this option would be incorporated into the curriculum.

### **FACULTY**

The strength of the Franklin Academy program, and its proposed conversion to a Charter School, lies in the professional preparation of the faculty of the program. Because the core of the faculty for this program would be drawn from the ranks of the college's regular day school faculty, we would be able to develop a cadre of teaching faculty whose undergraduate and graduate degrees are in the very areas in which we intend to specialize, i.e. mathematics, science, engineering and communications.

The experience gained in the Academy Program over the last five years clearly demonstrates that high school students are significantly more motivated and energized towards success when they are able to understand how the underlying concepts they are studying are applied to the solution of real problems in engineering and science. The vast experience and professional training of the college faculty who teach the current Academy students find this approach to be a major positive motivating source which would be incorporated and expanded into the pedagogical approach of the Charter School.

### **SUPPORT SERVICES**

In order to continue to focus on Boston high school students who are economically, socially and educationally disadvantaged in a charter school environment, counseling and educational support services will continue to be a major focus for resources.

The experience gained over the last five years in dealing with the personal, cultural and educational problems of the students in the Academy program supports the concept of a strong and expanded support component. Research conducted by Dr. Richard K. Fields in his doctoral dissertation identifies ongoing parental guardian support as one of the principal predictors of success for students with similar backgrounds. From our experience with



## CHARTER SCHOOL CONCEPT PLAN

the students in the Academy program we have been able to validate that thesis and have identified other mitigating factors including peer pressure, self-esteem, cultural and sub-culture issues, and goal setting. The current Academy program counseling staff would constitute the starting point around which an expanded support service would be built as we phase in the Charter School students.

### TIMELINE FOR IMPLEMENTATION

The present funding for the Franklin Academy is derived through private grant funds principally provided by the Balfour Foundation with additional financial assistance from the State Street Bank, Mabel L. Riley Foundation and several other smaller sources. The Balfour Foundation grant will expire at the end of next year's funding cycle as will the Mabel L. Riley grant.

To continue to serve this deserving population of Boston without a loss of service, the Franklin Academy should be approved as a Charter School during 1993 so that proper planning and implementation can occur prior to the beginning of the 1994 school year in September.

### SUMMARY

The high school program model which has been developed over the last five years in the Franklin Academy has proven itself to be a success as a major motivator for both completing high school as well as continuing the student's education into college. This model should be institutionalized through the charter school concept which was established by the state legislature for such a purpose. It would not only serve the public interest by providing a meaningful educational alternative, but it would also constitute good public policy by establishing such an alternative at an institution which is under public supervision and control and is a trust of the City of Boston.

# FRANKLIN INSTITUTE OF BOSTON

## A Report on the Effectiveness of The Academy Program in Applied Technology

### I. Description of The Academy Program in Applied Technology (APAT)

This program was established in February of 1989 to provide supplementary instruction, primarily in mathematics and science, to high school students who wanted to improve their skills in these areas. Participants in the program were recruited from the following high schools: Boston High, Madison Park Technical Vocational High, John D. O'Bryant High, Snowden High, Dorchester High, East Boston High, South Boston High, Hyde Park High School, and Cathedral High School. Since these students would ordinarily be required to work at part-time jobs to supplement family income, a scholarship incentive grant, comparable to their average earning capacity, is provided to each student, contingent upon the student's regular attendance and satisfactory grades.

With ample faculty and staff support, the program's academic expectations are high. Classes meet 14 hours per week after regular school hours during the regular school year, and 25 hours per week during the summer. Students who are accepted into this program, and who perform satisfactorily, are encouraged to continue the program until they graduate from high school.

Since the program's inception, the student body has been consistently predominantly minority. Currently it is 50% female, 53% Black, 32% Latino, 15% White and Asian.

Students are evaluated biweekly and are given constant feedback about their performance. Parental involvement is required, and staff from the student's high schools are provided with frequent updates concerning the student's progress. Students from Boston High School receive academic credit towards their diploma.

The curriculum consists of studies in the following:

Mathematics - Algebra I, Algebra II, Geometry, Trigonometry, Pre-Calculus and Calculus I.

Communications - Composition, Oral Communication and Literary Research.

Science - Principles of Technology, Physics, Chemistry and Statics

## **II. Introduction To Study**

The purpose of this study was to determine the effects that the Academy Program in Applied Technology (APAT) was having upon its participants. We were interested in the answer to such questions as: Does the program influence students to remain in school? Does it help students to earn better grades in their high schools? Does it contribute to students' decisions to seek postsecondary study?

To answer these and other related questions, we analyzed the surveys of 73 students out of 111 students who had participated in the program. We wanted to obtain their perspectives of how the program had affected their educational decisions. In addition, we obtained a sample of 25 academic transcripts of students that participated in the program prior to the 1992-93 school year. We wanted to determine if the students' self-reported academic outcomes could be validated by objective data. We also used information that we had gathered from extensive



interviews that we had held with students during the four years of the program's existence. The survey, including 31 follow-up telephones to reluctant respondents, occurred between May and August of 1993.

Since its beginning in 1989, a total of 111 students had been enrolled in APAT. at one time or another when this survey was conducted in the Spring of 1993. They had participated in the program at one of the three academic levels offered--Level I, Level II, or Level III (Table A). All students started at Level I (except in 1990-91 when 30 students were admitted directly into Level II), in Class A, B, or C and were eligible to continue through Level III if they so desired, contingent upon satisfactory academic performance at their regular high school and in the APAT. Students who completed Level III had studied advanced mathematics, including calculus, college physics, and advanced writing. Some of these students were able to receive credit from their high school for their study and were able to advance their high school graduation date, if they chose to do so. At this point, we believed that the students were well qualified, academically, to start a college program in a mathematics or science based field. The students who had not yet completed high school graduation requirements were given a choice of completing their senior year at their high schools or participating in a special program that would advance their college enrollment in engineering or industrial technology.

Five students who desired careers in the fields of engineering or industrial technology decided to participate in the newly created Senior High School-College Freshmen Year Program. These high school seniors took freshman year college courses at Franklin Institute which would simultaneously satisfy their high school graduation requirements. Special agreements were made with their high school that made this arrangement possible. Because they would continue to

study at Franklin Institute for the second year of the two year degree program, these students expect to complete their associate degree requirements one year after receiving their high school diplomas. Three of the five students have successfully completed their senior/freshman year at the Franklin Institute and are expected to graduate with the class of "1994". These students were part of the program since its inception in 1989 and provided the following comments about the program. "I found the program to be difficult, challenging, but rewarding. The Franklin Academy Program enabled me to complete high school and provided me with the confidence and insight with regards to a career in technology" (Denise Dejesus). "The Franklin Academy Program offered me the chance to become more dedicated in my studies as well as an opportunity to become more advanced than my peers at Boston High School. The Senior High School - College Freshman is difficult and frustrating and has required a lot of patience, but I have managed to overcome all of this and have grown considerably" (Marixabel Torres). "I utilized the Franklin Academy Program as a tool to get a better understanding of what college life is like, It also gave me a chance to become more independent both academically and personally. The Senior High School - College Freshman Year Program provided me with the inspiration to become successful. It isn't always easy, but with persistence I will be able to keep my mind and goal intact" (Khaliquah Simmons). The two other students did not complete the program, but did graduate from high school. We were unsuccessful in contacting them to determine the factors that contributed to their not completing the program. Students who were not interested in pursuing this option completed their high school programs with the active involvement of APAT staff. Assistance and support was provided to them as they applied for admission to colleges, including Franklin Institute, during the senior year.

The first set of 33 students who responded to the survey are former students who were not enrolled as of March 1993. They represent 43% of the 71 students who began their participation in the program in either the 1989-90, 1991-92, or the 1992-93 academic year (Table A). Seventeen (24%) of these currently unenrolled respondents started in the 1989-90 or 1990-91 school year (Class A), 11 respondents began their study in the 1991-92 academic year, and five initiated their participation in the program in the 1992-93 school year. Due to funding uncertainties, no Level I class was admitted in the 1990-91 academic year. Some of the respondents participated as students in the program continuously for as long as three years, from 1989 to 1992, while others participated for only one semester during the three year period. Their average length of participation in the program was 20 weeks. The thirty-eight other students who failed to respond to our survey could not be located, despite many phone calls to homes and high schools. We have learned that the population of at-risk students come from households which are highly transient and therefore difficult to locate for such surveys. After speaking with high school guidance counselors and teachers, we conclude that the 43% who responded provided a statistically sufficient sample from which valid conclusions could be drawn regarding the effectiveness of the program.

### **III. Summary of Findings**

An overwhelming majority of both former and currently enrolled students believe that the program has had a positive impact upon their education. Students feel that the program has contributed to their decision not to drop out of high school and to high school graduates'



decisions to attend college. Although many students said that they received support from their parents and other family members to attend the program, most believe that high school teachers and counselors provided the most encouragement to them to attend this demanding after-school program. The great majority of students who felt that the program helped them also reported that their mathematics, science, and communications skills were positively affected by the program. This was substantiated by an examination of a sample of former students' transcripts that validated their claims of academic improvement. Students' grade point averages (GPAs) from their freshman year through their senior year, or last completed seminar, on an average increased from 2.69 to 2.8 for all courses studied. Their mathematics, science and Communications GPAs increased from 2.6 to 2.69. While these increases in the overall GPAs averages are fractional increases in the grade point, they should be viewed as significant, as each student's school day and work load was increased by 50%. Since we found no difference in the opinions about the program between former and current students, we conclude that the program impact is enduring to the extent that students are encouraged to stay in school, to attend college, and to improve their academic performance, especially in mathematics and science. Our data indicate that the majority of former students left to participate in other high school activities, e.g., sports, cheer leading, honor society, etc. This has led us to reassess the definition of a "completer" for this program. Rather than thinking of a completer as a "graduate", we are compelled to view the program as an "enabling agent" that propels students towards their goals, although they may choose to stay in the program for varying lengths of time. These adolescents seek to experience other activities after they have gained confidence in their skills and formed solid goals for college as students in the APAT. The fact that they disengage to pursue these

other activities does not appear to diminish the impact that the program has had upon them. We therefore conclude that the program has had a positive impact upon at-risk Boston Public School students.

The following tables, discussions and qualified assessment review the data and responses from the survey:

**TABLE A**  
**Enrollment By Year and By Level**

<b>Year</b>	<b>Level I</b>	<b>Level II</b>	<b>Level III</b>
1989-90	26(Class A)	N/A	N/A
1990-91	N/A	47*(Class A)	N/A
1991-92	28(Class B)	N/A	23**(Class A)
1992-93	27(Class C)	16(Class B)	0

\* Seventeen of these students were from Level I of the 1989-90 school year. The remaining 30 enrolled in Level II during the 1990-91 school year. Many students had signed up for the Level I class, but funding uncertainty prohibited us from starting a Level I class that year. When we were notified of a five year funding, we admitted students who had reached a Level II range in high school mathematics (Algebra II).

\*\* Fifteen of these students were from Level I of the 1989-90 school year.

#### IV. The Program's Impact

##### A. The Program's Impact Upon High School Attendance of Previously Enrolled Students

All (33) of the previously enrolled respondents reported that they were full time high school or college students at the time of the survey (Table B, below).

**Table B**

##### **Previously Enrolled Respondents' High School Academic Status**

No. graduated - 13 (currently enrolled in college)

No. 10th grade - 3

No. 11th grade - 3

No. 12th grade - 14

Total - 33



Table C

**Previously Enrolled High School Graduates' Current Status**

Bentley College	- 1
Boston College	- 1
Boston University	- 1
Brandeis University	- 1
Cornell University	- 1
Franklin Institute	- 3
Katherine Gibbs School	- 1
Newbury Junior College	- 1
Northeastern University	- 1
Suffolk University	- 1
UMass at Dartmouth	- 1
Enrolled in college	- 13

**B. Previously Enrolled Students' Encouragement By Family, School and Friends**

Thirty one of the 33 students reported that they had been encouraged to participate in the program. Nineteen indicated that their teachers and high school counselors had been their sole sources of encouragement, while only two indicated that their parents had served in this role. Two respondents indicated that their friends were their only encouragement for

participating in the program. Eight others reported a combination of support consisting of teachers, counselors, parents, and friends.

#### C. How Students Learned About The Program

Virtually all 33 respondents reported that they heard about the program from their teachers or guidance counselors.

#### D. Previous Students' Program Attendance

Twenty one former students responded that they attended the program regularly, while 8 said that they attended most of the time. Another four reported that they seldom attended.

#### E. Previous Students' Academic Performance

Fourteen former students reported that they thought that their academic work was "good" and 12 others felt that their work was "average". Only 3 reported "very good" work and 4 rated their work as being "poor".

#### F. How Helpful Did Previous Students Find The Program

Twenty-six of the 33 students reported that the program had been helpful to them. Three felt that it was not helpful to them.

## G. How Former Students Felt The Program Was Helpful To Them

Formerly enrolled students felt that the program was helpful to them in a variety of ways. Nearly 80% of them felt that the program provided the incentive needed to consider attending college, while 70% reported that program improved their mathematics skills. Many students (63%) believed that their knowledge of science improved as a result of the program. The listing below in Table D summarizes how former students felt the program was helpful to them.

**Table D**

### **How Former Students Felt The Program Helped Them**

Consider going to college - 26

Improved math - 23

Improved science - 21

Made new friends - 21

Graduated high school - 15

Improved communications - 14

Learned more about careers in engineering - 13

Enrolled in college/career school - 13



## **V. The Program's Impact Upon Currently Enrolled Students**

### **A. Current Students' Encouragement By Family, School, and Friends**

Thirty eight of the 43 current students indicated that they received encouragement to participate in the program, while five said that they had no encouragement. The encouragement for 30 of them came from high school teachers and counselors. Only one student has received his sole encouragement from friends. One student also reported that she was encouraged solely by her parents. Five students reported that a combination of teachers, counselors, parents, and friends provided encouragement for them to participate in the program.

### **B. How Current Students Learned About The Program**

The majority of the students (36) reported that they heard about the program from their teachers and guidance counselors. One heard about it from a friend and 3 heard about it from a combination of sources including teachers, counselors, and friends.

### **C. Current Students' Program Attendance**

Thirty two respondents in this category indicate that they attended classes regularly while 4 reported that they came to classes most of the time. Two failed to respond to this item in the survey.

### **D. Current Students' Academic Performance**

Six of the students report that their performance to be very good: twenty-four feel that

their academic work is good and another eleven students believe that they are doing average work. Two felt their performance was poor.

#### E. How Helpful Do Current Students Find The Program

Thirty seven out of forty-three respondents indicate that they find the program to be helpful to them.

#### F. How Current Students Felt The Program Is Helpful To Them?

There were six major ways in which the program is proving to be helpful to students, according to their own reports. First, it allows them to make new friends (33). Second, it leads them to seriously consider going to college (28). Third, it helps nearly half of them (13) in their decision to remain in high school. Fourth, the program improves the students' communications (32), mathematics (32), and science (34) skills.

### **VI. Conclusion**

We conclude with the observation that the Academy Program In Applied Technology has had a very positive impact upon its students. Students use the program to improve their academic skills, meet new friends with similar goals and form new goals that include completing high school and attending college. Students who feel a need to work on these goals and to continue to improve their academic record are likely to remain in the program. Those who feel that they are ready to pursue other high school activities leave the program. but the positive effect upon both groups is the same.

